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Ron Knox

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EXAMINER

TEIXEIRA MOFFAT, JONATHAN CHARLES

ART UNIT

PAPER NUMBER

2857

NOTIFICATION DATE

DELIVERY MODE

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ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/595,193	<b>Applicant(s)</b> KNOX, RON	
	<b>Examiner</b> JONATHAN C. TEIXEIRA MOFFAT	<b>Art Unit</b> 2857	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12/16/2011.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7,9-21 and 24-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7,9-13,17-21 and 24-29 is/are rejected.
- 7) ☒ Claim(s) 14-16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### **Response to Amendment**

Applicant's amendments to the claims, filed 12/16/2010, are accepted and appreciated by the examiner.

### **Claim Rejections - 35 USC § 102**

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**1.**

Claims 1-7, 9-13 and 17-29 are rejected under 35 U.S.C. 102(b) as being anticipated by Fenwall Controls (JP09196843, cited by applicant), hereafter "Fenwall".

**With respect to claim 1**, Fenwall discloses a method comprising:

1) Conducting an upstream measurement of a flow rate through one sample inlet using a flow sensor and a single an-extension means such that the measuring is performed at a point remote from the sampling inlet, at or near ground level (Figs 1 and 2 and paragraphs 0032 and 0038). Inlets are holes 12 in the tubes which are upstream of sampling system 3 by means of pipe 2. Device 17 is an extension means attached to a hole to test it

2) Determining an operational condition of the particle detection system in accordance with the measured flow rate (paragraphs 0003-0006, 0031). A problem due to trapped particles is evaluated.

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3) Wherein the step of conducting an upstream measurement is repeated for at least one more of the sample inlets using the flow sensor and extension means (paragraph 0030). Multiple holes are tested.

**With respect to claim 2,** Fenwall discloses a method comprising:

1) Measuring the upstream flow rate through one sampling inlet of the particle detector system using a flow sensor (Figs 1 and 2 and paragraphs 0032 and 0038). Inlets are holes 12 in the tubes which are upstream of sampling system 3 by means of pipe 2. Device 20 is attached to a hole to test it

2) Determining an operational condition of the pollution monitoring equipment in accordance with the measured flow rate (paragraphs 0003-0006, 0030-0031). A problem due to trapped particles/dust is evaluated.

3) Wherein the step of measuring the upstream flow rate includes using a single extension means such that the measuring is performed at a point remote from the sampling inlet, at or near ground level (Figs 1 and 2). The testing device 20 has a short attachment means 17. Paragraph 0030 stipulates that the microphone is attached to this.

4) Wherein the step of measuring the upstream flow rate is repeated for at least one more of the sample inlets using the flow sensor and the extension means (paragraph 0030). Multiple holes are tested.

**With respect to claims 3 and 13,** Fenwall discloses repeating the step of measuring the upstream flow rate through respective sample inlets after a predetermined time interval; determining the operational condition by comparing respective flow rate measurements for each of the sample inlets (paragraphs 0030, 0032 and 0034).

**With respect to claim 4,** Fenwall discloses that the predetermined time interval comprises the occurrence of an incident and the occurrence of a maintenance action (paragraphs 0030-0031). The buildup of dust is an incident and the monitoring itself is a maintenance action.

**With respect to claim 5,** Fenwall discloses that the step of measuring the upstream flow rate, in the first instance, is performed upon one of: installation; cleaning; and repair of the pollution monitoring equipment (paragraph 0030). Cleaning of dust.

**With respect to claims 6, 11 and 19,** Fenwall discloses that the pollution monitoring equipment comprises one or more of: a plurality of sampling inlets of an aspirated particle detector system (Fig 1 item 12) a particle detector (Fig 2 item 3), a sampling pipe network of an aspirated particle detector system (Fig 2 item 7), a portion of a sampling pipe network of an aspirated particle detector system (Fig 2) an aspirated particle detector system (Fig 2).

**With respect to claims 7 and 17,** Fenwall discloses an ultrasonic flow sensor (paragraph 017). *“outside of audio range”*.

**With respect to claim 9,** Fenwall discloses one or more of: sampling pipe network obstruction and sampling inlet obstruction (paragraph 0030). Dust collection is obstruction.

**With respect to claim 10,** Fenwall discloses an apparatus comprising:

1) A flow sensor arrangement (Fig 1 item 17) adapted to form a sealed fluid communication path between a flow sensor (Fig 1 item 21) and one of a plurality of sampling inlets of the detector system (Fig 1 and 2 item 12), wherein the flow sensor determines the flow rate through the sampling inlet so as to allow a determination of an operating condition of the pollution monitoring equipment (paragraphs 0003-0006 and 0030-0031). Flow is used to determine dust or particle buildup.

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2) Wherein the sealed fluid communication path further includes a single extension means between the flow sensor and the sampling inlet (Fig 1 item 17). Paragraph 0030 describes that the microphone is attached here, thus adapter 17 connects the sensor to the inlet 12.

3) Wherein the flow sensor arrangement is adapted to form a sealed fluid communication path with respective sampling inlets of the detector system (Fig 1). Item 17 seals the inlet 12 and provides a flowpath that the sensor 21 monitors.

**With respect to claim 12,** Fenwall discloses an apparatus comprising:

1) A connector adapted to sealingly engage one of a plurality of sampling inlets of a particle detector system (Fig 1 item 17). This piece seals to inlet 12.

2) A sensing device for testing flow rate through the sampling inlet of the particle detector system, the sensing device comprising a flow sensor for conducting an upstream measurement of flow through the sampling inlet, wherein the sensing device is operatively connected to a flow data storage (Figs 1 and 2 and paragraphs 0032 and 0038). Inlets are holes 12 in the tubes which are upstream of sampling system 3 by means of pipe 2. Device 20 is attached to a hole to test it. Data is stored in 23.

3) A single extension means providing sealed fluid communication between the connector and sensing device such that a flow path is formed between the sensing device and the sampling inlet via the connector (Fig 1 item 17). Paragraph 0030 describes that the microphone is attached here, thus adapter 17 connects the sensor to the inlet 12.

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4) Wherein the connecting device is adapted to sealingly engage respective sampling inlets of the particle detector system (Fig 1). Item 17 seals the inlet 12 and provides a flowpath that the sensor 21 monitors.

**With respect to claim 18,** Fenwall discloses a method comprising:

1) Connecting a flow sensing apparatus including a single extension means to one of a plurality of sampling inlets of an air sampling system (Fig 1 item 17). Paragraph 0030 describes that the microphone is attached here, thus adapter 17 connects the sensor to the inlet 12.

2) Measuring the air flow rate into the sampling inlet ().

3) Comparing the measured air flow with a previously measured air flow at the time of commissioning the detector system (paragraphs 0003-0006 and 0030-0031). Flow is used to determine dust or particle buildup.

4) Determining from the comparative measurements whether a component of the detector system requires maintenance (paragraphs 0003-0006, 0030-0031). A problem due to trapped particles/dust is evaluated.

5) Repeating the connecting step for at least one or more of the plurality of sampling inlets and subsequently performing the measuring, comparing, and determining steps (paragraph 0030). Multiple holes are tested.

**With respect to claims 20-21 and 24-25,** Fenwall discloses an apparatus and computer software adapted to perform one of: determine an operational condition of a particle detection system (paragraphs 0030-0031), test the operation of pollution monitoring equipment (paragraphs 0030-0031), or field test a particle detector system (paragraphs 0030-0031), said

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apparatus comprising: processor means adapted to operate in accordance with a predetermined instruction set (Fig 1 item 23).

**With respect to claims 26-29**, Fenwall discloses that the particle detection system includes a pipe in which said plurality of sample inlets are provided (Figs 1-2 item 12) and a particle detector downstream of the plurality of sample inlets (Fig 2 item 3).

### **Conclusion**

Claims 14-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Each of claims 14 and 15 contains recitation of an “articulated connection intermediate... the extension means” and one of the connector and the sensing device. Although Fenwall has a sensing means and a connector, there is no intermediate component. Further, modification to add such an articulated component would not be reasonable in Fenwall because doing so would not allow the component 17 to vibrate as required.

No further prior art of record shows this element in combination with the other limitations of the claims. Thus it is neither anticipated by nor obvious in view of the prior art of record.

Claim 16 depends upon claim 14 and thus is allowable for at least the same reasons.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).



A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JONATHAN C. TEIXEIRA MOFFAT whose telephone number is (571)272-2255. The examiner can normally be reached on Mon-Fri, from 7:00-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on (571) 272-2312. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jonathan C. Teixeira Moffat/  
Primary Examiner AU 2857  
2/2/2011